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ABSTRACT

This report describes Project 12-Ways, an ecobehavioral service and research project which provides residents of 10 rural counties in Illinois with services in the areas of parent training; stress reduction; marital counseling; self-control training, social support, and basic skills for children; activity training, health maintenance, and nutrition; home safety; and job-finding, problem-solving, money management, and prenatal and postnatal services to single parents. It illustrates the project through use of a case study of one target family referred to the project by the Illinois Department of Child and Family Services. Presenting problems of the target family are given, including the incapacitating, stress-induced migraine headaches experienced by the mother. Interventions and outcomes of interventions are discussed in the areas of parent training for the mother, stress reduction training, marriage counseling, and family budgeting. Improvements in marital satisfaction, the mother's professional success, the father's drinking, the mother's headache control, and the daughter's compliance are noted. Although it is recognized that outcomes cannot reliably be attributed to counseling alone, the ecobehavioral approach is recommended because it appears to work. (NB)

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Migraine Headaches and Marriage and Family Happiness: An Ecobehavioral Approach

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Running head: MIGRAINE, MARRIAGE, AND FAMILY

Introduction

While one might dispute Tolstoy's (1877) statement that, "happy families are all alike;" it would be difficult to disagree with his conclusion that, "every unhappy family is unhappy in its own way." And often, as Satir (1983) suggests, "when one person in a family (the patient) has pain which shows up in symptoms, all family members are feeling this pain in some way." In the case of one such unhappy family, referred to Project 12-Ways in southern Illinois as being at-risk for child abuse, an ecobehavioral perspective turned up problems which were apparently remote from child abuse, but which turned out to impact every aspect of family life.

More traditional behavioral treatments for child abuse and neglect have included parent-child training (Crozier and Katz, 1979; Denicola and Sandler, 1980; Wahler, 1980), and "behavioral psychotherapy" (Reavley and Gilbert, 1979). However, Lutzker (1980) has pointed out that problems as severe as child abuse and neglect cannot be managed in a vacuum, but rather, need treatment from an ecobehavioral perspective, considering all environmental factors which might precipitate the problem, and trying to remediate as many of these factors as possible.

Project 12-Ways, an arm of the Rehabilitation Institute, Division of the College of Human Resources, at Southern Illinois University at Carbondale, is such an

ecobehavioral service and research project (Lutzker, Frame and Rice, 1982; Lutzker, 1984; Lutzker and Rice, 1984; Lutzker, Wesch and Rice, 1984; Lutzker and Newman, 1986). Services provided in home/in situ to residents of 10 rural counties include parent training (Dachman, Halasz, Bickett, and Lutzker, 1984; Lutzker, Megson and Webb, 1985); stress reduction (Campbell, O'Brien, Bickett, and Lutzker, 1983); marital counseling (Campbell, et. al., 1983); self-control training, social support, and basic skills for children (Lutzker, Campbell, and Watson-Perczel, 1984); activity training, health maintenance, and nutrition (Rosenfield-Schlichter, Sarber, Bueno, Greene, and Lutzker, 1983; Sarber, Halasz, Messmer, Bickett, and Lutzker, 1983); home safety (Barone, Greene and Lutzker, 1986; Tertinger, Greene, and Lutzker, 1984); job-finding, problem-solving, money management, and prenatal and postnatal services to single parents (Lutzker, Lutzker, Braunling-McMorrow, and Eddelman, in press).

The family in question, the target family referred to Project 12-Ways by the Department of Child and Family Services (DCFS) lived in a run-down home in a small residential community. Prior to her marriage 10 years earlier, Janet, 33, the mother, had completed her B.A. and was licensed as an R.N. in California. Her husband, John, 31, was a native of southern Illinois, epileptic, an episodic alcohol and substance abuser, and unemployed.

Their only child, Jill, 4, was non-compliant and acting-out. Janet, under the stress of living away from her friends and family in Northern California, without money, with the periodic drunken threats of a verbally abusive husband, and an on-going escalation of conflict with an oppositional child, developed incapacitating migraine headaches, let her nursing license slide, dropped her professional journals, gained weight and stopped making any attempts at grooming. However, she did seek out marital counseling at another agency, where her therapist referred the family to DCFS. In therapy, Janet confessed to sometimes feeling like killing her child. While, even in the best of situations parents sometimes express such sentiments, Janet's therapist considered this a serious threat because Janet had been known to chase Jill around the house with a heavy wooden spoon, screaming at the child, and whacking her so hard on the back of the head that John could hear the blows in another room. In fact, the only time John threatened Janet with physical violence was when she abused their daughter.

The family was also suffering from severe financial stress. With Janet, who had the skills for a good-paying job, out of the job market because she was too incapacitated to hold one, and John, unskilled, epileptic, and abusing alcohol, the only funds available came from the Department of Vocational Rehabilitation (DVR); and this

meager income plus the waiver for John's schooling disqualified the family for any other kind of relief, except food stamps.

At the time Project 12-Ways counselors entered the scene, the family was in an inexorable downward spiral. Janet's marital therapist was recommending divorce and suggesting that Janet take Jill and return to her parents' home in Oregon. After an initial four-week assessment and rapport-building phase which included in-home interviews, observations of family interaction patterns, contacts with social agency professionals and community resource individuals, Project 12-Ways counselors suggested a treatment strategy which encompassed three major goals and one sub-goal. First, despite the poor mother-child relationship, they recommended that stress-reduction be taught to Janet so she could manage her headaches. Once Janet was feeling better, they proposed introducing Janet to parent-training so she could optimally interact with her daughter. Finally, although Janet was in marital counseling elsewhere, they considered involving both partners in conjoint marital therapy, if possible. A sub-goal in this context was to get both partners to negotiate a workable budget.

The decision to work only with the mother in the parent-training phase of treatment was based, not on Project 12-Ways' philosophy, but rather on the father's

stated belief system, that this was his wife's problem. Rather than challenging the father head-on, the team chose to reach him through the mother.

Stress Reduction

Taking the ecology of the family into consideration, the team decided to tackle first things first, and started to work with Janet on reducing her migraine headaches. A stress reduction program using Jacobson's (1938) progressive muscle relaxation procedures was initiated with verbal feedback provided from a behavioral postural checklist that assessed relaxation positions (Schilling and Poppen, 1981). The training sessions took place in the family living room, usually during daytime hours when John was out of the home, and with Janet positioned in a reclining chair (Campbell, et. al., 1983). Two observers noted all 10 components of the behavioral postural checklist in one minute intervals. During the 30 seconds, they recorded the number of breaths, in and out, that Janet took. A baseline for component 1) Breathing, was established at between 6 and 7 every 30 seconds. Thereafter, observers were able to record a "+" or a "-" for breathing. During the next 30 seconds, observers documented the occurrence or non-occurrence of the remaining 9 relaxation positions: 2) Quiet, 3) Body, 4) Head, 5) Eyes, 6) Mouth, 7) Throat, 8) Shoulders, 9) Hands, and 10) Feet.

Reliability for the behavioral postural checklist was recorded by having the two observers sit directly in front of Janet and observe for 30 seconds. The primary observer cued the secondary observer when to begin and end each observational interval. The intervals were measured with a stop watch. This observation period lasted 15 minutes (Campbell, et. al., 1983).

To assess the effectiveness of the progressive muscle relaxation procedures Janet was required to record the frequency, duration and intensity of her pain on a scale of one to ten: one indicating light headache pain; five indicating dull, steady headache pain; eight indicating heavy, throbbing headache pain; and ten indicating incapacitating headache pain. Janet posted a data collection chart on her refrigerator and recorded the headache data on a daily basis. Further, Janet was asked to record the antecedents of her headaches.

Prior to beginning treatment, Janet received a thorough medical examination ruling out the possibility of neurological or other organic disorders, and confirming the diagnosis of tension headaches. During the second week of baseline, Project 12-Ways counselors reviewed Janet's first week of headache data, and used them as a reference to establish the 10-point rating scale for headache intensity. Janet was then trained in progressive muscle relaxation, using the 16 muscle groups described by

Jacobson (1938). The first day of training focused on the first eight muscle groups within the 16 muscle groups. After Janet was able to relax these muscle groups, the second eight groups were introduced. The behavioral posture checklist was used to assess the degree of Janet's relaxation. Her compliance to a daily regimen of relaxation exercise with or without a headache was 53%. Janet was also provided with behavioral postural feedback to increase relaxation. Verbal feedback cues were one-word prompts, such as "head" indicating her head was not in a relaxed position. This enabled Janet to focus on distinct body parts and discriminate more easily between non-relaxed and relaxed states. Janet was also encouraged to practice these exercises at home when the 12-Ways team was not present. After initially providing Janet with verbal feedback, she was taught to self-monitor her level of tension twice daily: from 10:00 am to 12:00 noon and from 2:00 pm to 4:00 pm. If she felt tension, she was instructed to do her relaxation exercises at that moment. Janet wanted proof that the relaxation techniques were the cause of the reduction in frequency and intensity of her headaches, and, without consulting the treatment team, she set-up a self-reversal condition by stopping all relaxation exercises, while continuing self-monitoring of headaches. Convinced that the relaxation exercises were making a difference, Janet reinstated them and continued

self-monitoring of tension levels. The treatment team collected behavioral posture data at both 14 and 20 weeks after terminating treatment (Campbell, et. al., 1983).

Results

Table 1 shows the effect of progressive muscle relaxation training. The top section of Table 1 illustrates Janet's level of relaxation using Schilling and Poppen's (1981) behavioral postural checklist. During the initial phase, no training occurred. Between the fourth and 10th weeks, progressive muscle relaxation without feedback was taught. During this phase Janet achieved an average of 72.43% relaxation on the pre-test with a range of 46.0% to 82.0%. On the post-test Janet averaged 78.5% relaxation with a range of 58.0% to 88.0%. Between the 11th and 16th weeks Janet was taught progressive muscle relaxation with verbal feedback. During this phase Janet achieved an average of 80.0% relaxation on the pre-test with a range of 70.0 to 90.0%. On the post-test Janet achieved an average of 87.0% relaxation with a range of 80.0% to 96.0%. Between the 17th and 20th weeks Janet was instructed to self-monitor her state of relaxation. During this phase Janet achieved a state of 88.0% relaxation on the pre-test with a range of 86.0% to 90.0%. On the post-test, Janet averaged 96.67% relaxation with a range of 96.0% to 98.0%. After the 20th week, progressive muscle relaxation observations were discontinued until the

follow-up. On the 35th and 41st weeks, follow-up data were collected. During the follow-up, Janet averaged 87.0% relaxation on the pre-test and 97.0% relaxation on the post-test.

Also shown in Table 1 is the frequency of home practice. Between the first and third weeks, no training took place. During the fourth and 10th weeks, Janet was taught progressive muscle relaxation without feedback and averaged 3.7 home practice sessions per week with a range of 0 to 7. During the 11th and 16th weeks Janet was taught progressive muscle relaxation with verbal feedback. During this phase Janet practiced on an average of 3.2 times per week, with an average of 1 to 7 times per week. During self-monitoring Janet averaged 9.21 home practices per week with a range of five to 15 home practices per week. During the 31st week, Janet imposed a self-reversal which included not doing any home practices. Between Weeks 32 to 56 Janet reimplemented self-monitoring and home practices. Janet average 8.85 home practices per week with a range of five to 15 home practices per week with a variable frequency trend.

The bottom section of Table 1 shows the effect of relaxation training on frequency and duration of headaches. During the baseline condition, the average occurrence of headaches was 12.33 per week with a range of seven to 22. During progressive muscle relaxation without

feedback, the average frequency of headaches per week was 9.14 with a range of two to 19 per week. During progressive muscle relaxation with feedback the average was 11.67 headaches per week with a range of one to 19. During self-monitoring the average was 1.68 headaches per week with a range of zero to 12 headaches per week. During the reversal, Janet's headaches occurred two times during that week. When self-monitoring was reinstated, Janet's headaches averaged 2.38 per week with a range of zero to 6 headaches per week.

The bottom section of Table 1 illustrates the duration of Janet's headaches in minutes. The average duration of Janet's headaches for baseline was 1374 minutes (22.9 hours) per week with a range of 1250 to 1498 minutes per week. For the progressive muscle relaxation without feedback condition, the average was 812.6 minutes (13.5 hours) per week with a range of 60 to 1615 minutes per week. In the progressive muscle relaxation with feedback condition the average headache duration was 1432 minutes (23.9 hours) per week with a range of 180 to 3540 minutes per week. In the condition of self-monitoring the average duration of headaches was 358.3 minutes (6.0 hours) per week with a range of zero to 1456 minutes per week. In the self-reversal, the headache duration was 264 minutes (4.4 hours) per week. In the reinstatement of self-monitoring, the average duration of headaches was 158.8 minutes (2.68

hours) per week with a range of zero to 480 minutes per week. One more result of Janet's stress reduction program was unanticipated. While John initially chose not to participate in treatment but only wanted the Project 12-Ways counselors to "fix" his wife, as she began to feel better, he showed a growing interest in the process. He began to come home and check Janet's logs on the refrigerator door. One such comment, "John came home drunk tonight. Headache. Sudden onset. 4 hours. 6," written in large letters, posted on the refrigerator for all to see, certainly got John's attention. The following evening, John came home with a bouquet of flowers for his wife!

Parent-training

This intervention involved the modification of a model developed by Peed, Roberts, and Forehand (1977). The techniques included role-playing, modeling, and verbal feedback. The objectives were to increase Janet's frequency of contingent reinforcement to Jill, to increase her ability to give specific as opposed to vague commands, and to achieve a higher rate of compliance by Jill to Janet's commands. Specific or "Alpha" commands were such phrases as, "Jill, I want you to pick up your shoes now and put them in the closet." Vague or "Beta" commands might be phrases like, "Pick up your stuff and get it out of here." Forehand and McMahon (1981) have suggested that Alpha

commands are usually preferable to Beta commands. Compliance, in this treatment, was defined as the child following her mother's Alpha command within one minute after it was issued.

To collect the data, one or two observers sat on a chair or couch approximately 8 feet away from Janet and Jill, recording the frequency of reinforcement, verbal praise, attending, questions, criticism and Alpha and Beta commands (see Peed, et. al., 1977).

The parent-training sessions consisted of: a) pre-training-- Janet interacted with Jill, without the treatment team's intervention; b) training-- the team trained Janet on specific target behaviors; and c) post-training-- Janet was instructed to interact with Jill to demonstrate the strategies she had learned. Inter-observer reliability was recorded for parent-training. Total reliability was calculated by agreements of behaviors divided by agreements plus disagreements of total behaviors x 100 (Campbell, et. al., 1983).

A baseline condition was established as Janet was asked to interact with her daughter with no restrictions; however, Janet initiated sessions by turning off the television and playing with Jill in the living room.

The treatment team then taught Janet how to deliver specific rewards, such as verbal descriptive praise and

tactile acknowledgment for desired behaviors. One member of the team sat on the floor with Janet and played with Jill. At first, the counselor provided tasks such as building blocks, stringing beads, and fitting plastic pegs into appropriate holes. Later, the mother provided the tasks. Then Janet was prompted to deliver rewards to Jill. These prompts were slowly faded as Janet developed reward-giving skills of her own. Next, Janet was taught how to give precise commands to Jill. The treatment team provided feedback, as well as modeling and role-playing giving appropriate Alpha commands. To determine whether Janet could generalize command giving skills from the treatment condition to non-treatment situations and to discover the degree of Jill's compliance to her mother's commands, the team observed mother-child interactions while providing no feedback and recorded the same behaviors as in previous conditions. During the 4th, 6th, 7th, 10th and 14th week after command training was completed, the team scheduled observation sessions with Janet and Jill where reinforcement-giving, command-giving, and compliance skills were demonstrated.

Results

Table 2 demonstrates the effect of parent-training on rewards, precise commands (Alpha commands), and compliance. The top section of Table 2 illustrates the rate of rewards per minute that Janet administered to Jill

during parent-training. The average rate per minute for rewards during baseline was 0.28 per minute with a range of zero to 0.7 per minute. In the reinforcement training condition, the rate per minute of rewards for pre-training was 2.14 rewards with a range of 0.6 to 3.3 rewards per minute. For post-training the average rate was 2.4 rewards per minute with a range of 1.4 to 3.0 rewards per minute. In the command training, the average rate of rewards for pre-training was 2.7 rewards per minute with a range of 1.4 to 5.0 rewards per minute. For post-training, the average rate of rewards was 2.0 per minute with a range of 0.3 to 3.6. In the follow-up condition, the average rate of rewards was 2.46 rewards per minute. Follow-up consisted of observation sessions four, six, seven, 10, and 14 weeks after training.

The next section of Table 2 shows the rate per minute of Janet's precise commands (Alpha commands). The average rate per minute of Alpha commands during baseline for pre-training was 0.08 commands per minute with a range of zero to 0.3 During the reinforcement training condition, Janet's precise commands (Alpha) for pre-training were 0.3 commands per minute with a range of zero to 0.6 per minute. For post-training Alpha commands were 0.26 commands per minute with a range of zero to 0.4 per minute.

During command training the average rate of commands per minute for pre-training was 2.57 commands per minute

with a range of 0.1 to 4.2 commands per minute. Post-training showed an average of 2.52 commands per minute with a range of 0.6 to 5.2 commands per minute. During follow-up, the average rate of commands was 3.18 commands per minute, a dramatic increase over the original baseline.

In bottom section of Table 2, the data illustrate the percentage of compliance by Jill to Janet's precise commands (Alpha commands). The average percentage of compliance for the baseline condition for pre-training was 0.09. the average percentage of compliance for the reinforcement training condition for pre-training was 41% with a range of zero to 100%. For post-training baseline, the average percentage of compliance was 24.60% with a range of zero to 100%. For command training, the average percentage of compliance for pre-training was 66.6% with a range of 50% to 90%. For post-training in the command training condition, the average compliance was 54.6% with a range of 20% to 90% compliance. In the follow-up condition, the average compliance was 63.8%, again a sizeable increase over baseline.

Both Janet and Jill expressed satisfaction with their interactions. For example, Janet was originally loathe to get down on the floor to play with her daughter and thought that games such as "cut and paste" were messy. Later she told counselors that she enjoyed playing on Jill's level and that "cut and paste" had become one of her favorite

games. Jill expressed pleasure at "mommy playing with me." Further, Janet had long deterred her mother from visiting because she was ashamed of the way she and Jill interacted. Later, Janet invited her mother to make the trip from Oregon because she wanted to "show off" her parenting skills and Jill's compliance.

Marital counseling

With two of Project 12-Ways counselors' original goals implemented, they began to focus on the major environmental problem-- the marriage, itself. Although John still refused to become an active participant in the treatment process, he had begun to make it a habit to sit quietly in the kitchen while sessions were in progress, listening carefully. And, while Janet was not ready to get a divorce as her marital therapist and marital group were urging, neither was she ready to share a counseling session with her husband. She was afraid of losing the 12-Ways counselors' full attention.

The Project 12-Ways counselors' strategy was to work separately with each spouse until such time as they would agree to conjoint sessions. To allay Janet's fear of losing time, they also agreed to add time for conjoint sessions, rather than to hold them during any of "her" hours. At this time, John asked one of the counselors for help with his math homework and the counselor negotiated half a session for math and the other half for marital

counseling.

As Janet's outside marital therapist and group retained a fixed mind-set about her leaving John, even though the situation at home was improving, Janet became disenchanted with therapy and quit. She began to work on marital issues with her Project 12-Ways counselors. In addition, after her successes with headache control and child management, Janet began to lose weight, to wear make-up and generally take care of herself.

Finally both spouses agreed to begin counseling sessions as a couple.

In this conjoint situation an intervention based on a modification of the reciprocity counseling procedures described by Azrin, Naster, and Jones (1973) was introduced. Janet and John were asked to document five positive things their partner did, as well as suggesting one or two areas in need of improvement. At the in-home counseling sessions each week the couple were given the Marital Happiness Scale (Azrin, Naster, and Jones, 1973). This participant-rating scale contains 10 items, evaluated on a scale of 1 to 10; one being completely unhappy; five, being happy and ten, being completely happy (Campbell, et. al., 1983).

Baseline for Janet had been established during the time she was seeing her previous marital counselor, for she had been completing the Marital Happiness Scale on a weekly

basis. Baseline for John was established as part of the math-tutoring-for marital-counseling trade-off, where John, too, filled out a Marital Happiness Scale on a weekly basis.

While each partner worked separately with 12-Ways counselors, they continued to complete the scale on a weekly basis. One counselor talked to John about John's specific problems and how they were being handled, while another counselor assigned specific target tasks to Janet to help her in problem-solving her marital difficulties.

Weekly conjoint counseling sessions consisted of discussions concerning the couple's prevalent problems, followed by training in problem-solving techniques. Examples included: pin-pointing problem areas, focusing on solutions, assigning responsibilities (Tearnan and Lutzker, 1980), and documenting the occurrence of these responsibilities. During each session, a specific problem was explored and a mutually agreed-upon solution was reached. At the end of each weekly session, assignments were given, based upon the couple's negotiated agreement. At the following session, the previous week's assignments were reviewed, other problems were explored, and new assignments given.

An example of a typical assignment for John was to take a walk with his family. John chose the coldest day in winter to take Janet and Jill for a short walk. While the

counselors thought that John hadn't used optimum judgment, Janet was thrilled and commented on how he bundled them up carefully and how much they had all enjoyed the experience.

While there was also clearly a problem with John;s abusing alcohol, it was dealt with obliquely rather than head-on. Janet specified, not only on her headache log, but also in conjoint sessions that what she most feared about John's drinking bouts was the fact that he then had to drive home. Her relaxation log confirmed this reaction. For example, her baseline for relaxation was between 6 and 7; relaxed, she reached around 3/4; but when she heard any car approaching the house in the late afternoon, she shot up to 6/7 again, and when she heard John's car specifically, and heard his footsteps, she would go to 8/10. She stated that she never wanted to be relaxed to a point of vulnerability when John came home, because he might be drunk. John responded to Janet's needs, demonstrated to him in this manner, and gradually was able to control his drinking, at least to acceptable levels for Janet. He stopped drinking outside the home, and greatly reduced his drinking inside the home.

Sexual interactions between Janet and John had decreased during the years. However, as assignments to spend more recreation time together as a family increased, John and Janet resumed spontaneous and satisfying sexual activity. For example, John began to take Janet and Jill

with him on his fishing trips. Reports to counselors included the fact that they would get Jill set-up fishing and then take off into the bushes together as they had done in the early days of their marriage.

Results

Table 3 shows the effects of reciprocity counseling on the "general happiness" scale. The top section of the Table illustrates Janet's and John's rating for "general happiness" with a 1 being "completely unhappy" and a 10 being "completely happy." Janet's average rating for "general happiness" for baseline was 4.0 with a range of 3.0 to 5.0. For the (separate) treatment the average was 7.04 (range = 5.0 - 9.0). For (conjoint) treatment the average rating was 6.13 with a range of 4.0 to 7.0. For follow-up, the average rating was 9.0. Follow-up consisted of a session at 14 and 16 weeks after treatment.

the next section illustrates John's rating of general happiness on a 1 (completely unhappy) to 10 completely happy) scale. John's average rating for general happiness for baseline was 2.75 with a range of 2.0 to 4.0. For (separate) treatment, the average rating was 3.0 with a range of 2.0 to 4.0. for (conjoint) treatment, the average rating was 4.88 with a range of 3.0 to 6.0. During the follow-up condition the average was 8.5.

The bottom section of Table 3 demonstrates the effectiveness of reciprocity counseling on the Marital

Happiness Scale. Janet's average score for the baseline condition was 3.33 with a range of 2.6 to 3.9. In (separate) treatment the average score was 5.28 with a range of 4.4 to 6.1. For (conjoint) treatment, the average rating was 5.01 (range = 3.7 - 5.8). For the follow-up condition, Janet's average score was 6.95.

The bottom section of Table 3 shows John's average score on the Marital Happiness Scale ranging from 1.0 (completely unhappy) to 10.0 (completely happy). John's average score for the baseline condition was 3.75 with a range of w.0 to 4.3. For (separate) treatment, the average score was 3.41 with a range of 2.8 to 4.0 (no improvement). For (conjoint) treatment, the average score was 4.16 with a range of 3.6 to 4.5. This represented a moderate increase, but for the follow-up the average score was 7.2, a large increase.

Budgeting

When Project 12-Ways was called into the picture the family's financial situation was disastrous. Janet had a skill and a profession but was incapacitated. John was epileptic, drinking and unskilled, the funds they received from the DRV were hardly enough to live on, but just enough to prevent them from getting other forms of relief. Janet would occasionally help out in the kitchen of a restaurant, but she hated the work. The waiver for John's schooling was counted as income, so that further decreased their

chances of aid. One of the family's lowest points financially came during a Christmas season when they had no tree, no presents, and very little food. While counselors had been working on other aspects of the family's problems, the financial pressures added stress to each factor. During this particular Christmas season, a typical entry on Janet's log read, "No check in mail. John called school. No more checks. So now no money at all. What are we going to do? No X-mas tree. Upset all over. Crying. Headache. Upset stomach. Sudden onset. 2 1/2 hours. 6." Another entry during the same week stated, "No money for car. Might cause trouble for John. Headache. Sudden onset. 4 hours. 6." Marital satisfaction scales for this period present an interesting difference in the couple's perspectives. John expressed dissatisfaction with every aspect of the marriage, and when questioned stated that the lack of money colored his feelings about everything else. Janet was able to differentiate, and because of some successes in communication with her husband and child, gave ratings of higher satisfaction in all areas EXCEPT money.

The issue of budgeting, as a sub-goal of marital counseling came up mainly because one of John's major complaints was Janet's inability to "control money." Although none of the work that was done with the couple in this area is the result of rigorous investigation, nonetheless, with this specific couple, at this specific

time, in this specific situation, it worked.

Project 12-Ways counselors taught Janet to pro-rate the money she got each month for grocery shopping and other household expenses. Further, she learned to draw-up a complete monthly breakdown of where every last penny went, so that when John complained about the quality of meals being served, for example, Janet was able to show him that, with more money she could have done better. Eventually, John's habitual way of handing out money to Janet from his school waiver money changed. That is, John learned how much it actually cost to run the household and, instead of giving Janet the change in his pockets after a drinking spree with his buddies, he gave her the check and she gave him an allowance for his personal expenses. John did this voluntarily, after several months of Janet's budget breakdowns were presented to him.

As each aspect of their lives improved, Janet felt able to once again pursue her career in nursing. She gained licensure to practice in Illinois and began to work. The family's financial condition improved dramatically, they ultimately were able to afford better housing, John completed his training and also secured a well-paying job. As financial pressures lifted, other areas of their lives further improved, And a cycle of comfort and satisfaction replaced their previous cycle of poverty and abuse.

Outcomes

While no quantitative measure was made for "budgeting," after 56 weeks, a Consumer Satisfaction Questionnaire was given to Janet and John individually. On a 10-point scale they rated their satisfaction with the overall assistance in stress reduction, parent-training, self-control, marital counseling, budgeting, new techniques learned and counselors' sensitivity towards needs (Campbell, et. al., 1983).

Janet indicated on the Consumer Satisfaction Questionnaire that she was completely satisfied with the overall assistance she received and was completely satisfied with the following training components: stress reduction, parent-training, and marital counseling. Janet rated the training components of budgeting and self-control as 9 on a scale of 1 (completely dissatisfied) to 10 (completely satisfied).

John rated on the Consumer Satisfaction Questionnaire an 8.5 for overall assistance he received on a scale of 1 (completely dissatisfied) to 10 (completely satisfied). He also rated the components as follows: stress reduction 6.5, parent-training 9.75, marital counseling 6.5, budgeting 8.0, and self-control 6.5.

Observer reliability

Reliability for stress reduction (progressive muscle relaxation training) was recorded 18 times: total

reliability was 90.78% with a range of 76-100%; non-occurrence reliability was 61.5% with a range of 17-100%; occurrence reliability was 87.0% with a range of 67.0-100% (Campbell, et. al., 1983). Total reliability was recorded 13 times for parent training. The average reliability was 92.12% agreement with a range of 74-100%.

Discussion

By coaching the mother in stress reduction techniques to alleviate tension headaches, by teaching the mother parenting strategies which increased the child's compliance, by guiding the mother and father to use effective interpersonal communication processes thereby improving the marriage, by instilling appropriate budgeting skills leading to improved use of income, counselors were able to interrupt potentially abusive and deteriorating family problems, and help family member access their own resources to maintain satisfying interactions.

The stress reduction intervention allowed Janet to alleviate formerly incapacitating headaches. During parent-training, Janet learned to increase her rate of contingent reinforcement. Janet was further able to generalize what she had learned and went on to design and implement her own successful token program, by giving Jill a star whenever Jill cleaned her bedroom. Jill's rate of compliance (as well as her frequency of bedroom cleaning) increased to satisfactory levels, a clear function of the

parent-training provided to her mother.

The results of the marital counseling suggest two considerations. One, as Janet learned to use the tools and problem-solving skills provided, her feeling of helplessness decreased, her perception of having some control over her life increased, and she became more satisfied with her marriage. Two, once John actually saw the handwriting on the wall (or the refrigerator, in this instance), and was confronted by Janet in conjoint treatment; his own realization of Janet's marital dissatisfaction motivated him toward dealing with these problems.

Follow-up data support the concept that providing treatment in home/<u>in situ</u> might make a difference in the long-term maintenance of new skills and behaviors. Of course, in the absence of any comparison data this is only a speculation.

What is clear, from this case, is that the outcome for each individual and the family as a whole might have been different had the counselors not been committed to an ecobehavioral approach. For example, having been called in to treat a potentially abusing mother, had the counselors used more traditional methods of parent-training, Janet's problem with her migraine headaches might have been overlooked. Had Janet not gotten control over those devastating headaches she might not have been capable of

learning parenting skills, nor might she have been in any state to try interpersonal skills with her husband, and finally, she would have been too incapacitated to go back to work. The ecobehavioral approach utilized through a multi-faceted intervention program relieved a stressful environment, allowing each individual and the system as a whole to improve.

Janet's ability to reduce and maintain a lower frequency and duration of headaches through the increased practice of progressive muscle relaxation enabled her to cope with internal family problems that she was previously unable to handle. The natural transition to parent-training provided Janet with strategies to structure and maintain consistency in dealing with a non-compliant child. Having achieved a higher rate of compliance from her daughter, Janet was then able to face the major problems in the home environment, financial distress and marital dissatisfaction.

After learning modified reciprocity, Janet and John were able to restructure the family unit. Janet began teaching John the parenting skills that she had acquired, and John and Janet designed and developed a family budget, something John had previously refused to consider. Also, John supported Janet's job-seeking, and, rather than being critical as he had been in the past, he expressed enthusiasm for her success, and also was appreciative of

Janet's growing independence. Janet's professional success led to a higher and more comfortable standard of living and paved the way for John to complete his education and market his skills.

Since all objectives of this case were met, it was terminated by Project 12-Ways and the state protective service agency (Campbell, et, 1983). There has never been any further indicated child abuse or neglect with this family.

There are three final issues which deserve consideration. First, there may be concern that the observers' presence might have cause reactivity in the data. This is a legitimate concern, for which there is only a subjective answer. That is, in cases such as this, counselors are involved in such depth and over such periods of time (4 hour sessions over 1 year) that they become highly sensitized to overtly reactive behavior by clients. A second concern stemming from the first, is the invasiveness and cost of such interventions. In areas as problematic as child abuse and neglect, such invasiveness may not only be necessary, but desirable, while a university-based ecobehavioral approach such as Project 12-Ways is more cost-efficient than a community mental health model (Lutzker, 1984). Thirdly, only the kind of in-depth assessment utilized in this case can provide a treatment program specifically tailored to the unique needs

of each client or system.

Finally, we must consider the chicken-and-egg effect. That is, within the ecobehavioral approach, it is as impossible to isolate a primary effective component, as it is to tell which came first, the chicken or the egg. For example, Janet's professional success could have contributed to a higher rate of marital satisfaction. John's decreased drinking could have contributed to Janet's professional success. Janet's headache control could have contributed to Jill's compliance. Clearly, to attribute the outcomes to the effects of counseling alone, would miss the point. But, without such intervention, one might wonder where this family would be. What we can conclude is that without the chicken there might be no egg and vice versa. And, while scientific purity might be more difficult to attain in an ecobehavioral approach, it is still worth doing because clinically, it works. Azrin (1977) has labeled this outcome-based therapy.

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Table 1: Acquisition and Practice of Relaxation Skill and Effects Upon Frequency and Duration of Headaches

Acquisition of Progressive Relaxation Skill Percentage of Body Parts Relaxed	Condition	Progressive Relaxation Without Feedback	Progressive Relaxation With Feedback	Self-Monitoring	Follow-up (35 + 41 weeks)
	Pretest	$\bar{x}$ = 72.4% (46.0% to 82.0%)	$\bar{x}$ = 80.0% (70.0% to 90.0%)	$\bar{x}$ = 88.0% (86.0% to 90.0%)	$\bar{x}$ = 87.0%
	Post-test	$\bar{x}$ = 78.5% (58.0% to 88.0%)	$\bar{x}$ =87.0% (80.0% to 96.0%)	$\bar{x}$ = 96.6% (96.0% to 98.0%)	$\bar{x}$ = 97.0%

Frequency of Home Practice of Relaxation Exercise per week	Condition	Progressive Relaxation Without Feedback	Progressive Relaxation With Feedback	Self-Monitoring	Reversal	Self-Monitoring
	Average	3.7	3.2	9.2	0	8.9
	Range	0 to 7	1 to 7	5 to 15	0	5 to 15

Frequency of Headaches Per Week	Condition	Baseline (No Treatment)	Progressive Relaxation Without Feedback	Progressive Relaxation With Feedback	Self-Monitoring	Reversal	Self-Monitoring
	Average	12.3	9.1	11.7	1.7	2.0	2.4
	Range	7 to 22	2 to 19	1 to 19	0 to 12	—	0 to 6

Duration of Headaches In minutes/week	Condition	Baseline (No Treatment)	Progressive Relaxation Without Feedback	Progressive Relaxation With Feedback	Self-Monotoring	Reversal	Self-Monitoring
	Average	1,374	812.6	1,412	358.3	264	158.5
	Range	1250 to 1498	60 to 1,615	180 to 3,540	0 to 1456	—	0 to 480

Table 2 Acquisition of Parenting Skills: Rewards, Commands and Compliance

	Condition	Baseline (No Treatment)	Reinforcement Training	Command Training	Generalization
Rewards Rate Per Minute	Pre-training	$\bar{x}$ = 0.3 (0 to 0.7)	$\bar{x}$ = 2.1 (0.6 to 3.3)	$\bar{x}$ = 2.7 (1.4 to 5.0)	$\bar{x}$ = 2.4
	Post-Training		$\bar{x}$ = 2.4 (1.4 to 3.0)	$\bar{x}$ = 2.0 (0.3 to 3.6)	
Alpha Commands Rate Per Minute	Pre-training	$\bar{x}$ = 0.08 (0 to 0.3)	$\bar{x}$ = 0.3 (0 to 0.6)	$\bar{x}$ =2.57 (0.1 to 4.2)	$\bar{x}$ = 3.18
	Post-Trainine		$\bar{x}$ = 0.26 (o to 0.4)	$\bar{x}$ = 2.52 (0.6 to 5.2)	
Percentage of Compliance to Alpha Commands	Pre-training	0.0%	$\bar{x}$ = 41.7% (0.0% to 100%)	$\bar{x}$ = 66.6% (50% to 90%)	$\bar{x}$ = 63.8%
	Post-Training		$\bar{x}$ = 24.6% (0.0% to 100%)	$\bar{x}$ = 54.6% (20% to 90%)	

Table 3 The Effect of Marital Counseling on General and Marital Happiness Scale

Condition		Baseline (No Treatment)	Treatment (Separate)	Treatment (Conjoint)	Follow-up
Janet's Rating For General Happiness	Average	4.0	7.04	6.13	9.0
	Range	3.0 to 5.0	5.0 to 9.0	4.0 to 7.0	———
John's Rating For General Happiness	Average	2.75	3.0	4.88	8.5
	Range	2.0 to 4.0	2.0 to 4.0	3.0 to 6.0	———
Overall Janet's Average Score on Marital Happiness	Average	3.33	5.28	5.01	6.95
	Range	2.6 to 3.9	4.4 to 6.1	3.7 to 5.8	———
Overall John's Average Score on Marital Happiness	Average	3.75	3.41	4.16	7.2
	Range	2.0 to 4.3	2.8 to 4.0	3.6 to 4.5	———